

REMARKS

In order to better define his invention, Applicant has amended claim 1 to that make clear that the sampling aliquotter system of his invention comprises a sample fluid tube closed by a closure and a vertical drive configured to drive the probe through the closure.

Claim Rejections –35 USC §102

Claims 1, 4 and 5 are rejected under 35 USC 102(b) as being anticipated by US Patent 5,827,744 to Fose et al.

Fose discloses a rotatable sampling arm (24) supporting a hollow, liquid carrying sample probe (30) [Col. 3, lines 62-66], and a vertical drive (34) "adapted to rotate and vertically translate sample arm (24) in order to bring a required sample container (14) into alignment with sample probe (30)." (Col. 4, lines 6-9). Sample probe (30) is adapted to aspirate liquids from a sample container (24). Fose does not disclose "a sample fluid tube closed by a closure and a vertical drive comprising a linear actuator configured to drive a probe through the closure." Thus, Fose does not directly disclose each and every aspect of the claimed invention.

Further, as previously observed, a close examination of Fose taken as a whole makes it clear that Fose's device is used in an analyzer, specifically the commercially available Dimension® clinical analyzer, which supports open sample containers and not closed containers. Thus, Fose does not implicitly disclose nor inherently teach each and every aspect of the claimed invention. For these reasons, an anticipation rejection cannot be substantiated and should be withdrawn.

Regarding dependent claims 4 and 5, these claims are allowable for at least the reasons as corresponding claim 1. Therefore, Applicant respectfully requests removal of this rejection.

Claims 1, 2, 5 and 6 are rejected under 35 USC 102(b) as being anticipated by US Patent 5,531,960 to Zelinka.

As now claimed, Applicant's sampling aliquotter system comprises a sample fluid tube closed by a closure and a linear actuator vertical drive capable of driving the probe through the closure. This limitation of claim 1 as having a "linear actuator adapted to drive a probe through the closure" is further limited by claim 2 wherein the vertical drive comprises a sample tube retainer that is lowered into contact with the closure to secure the closure in position while the probe is retracted from the closure.

Zelinka discloses a device to determine the Dissolved Oxygen (DO) content of samples in sample containers. An examination of Zelinka as a whole, in particular at Fig. 3, the sample containers 42 are seen to have outwardly flared openings that are suitably for insertion of "probe tips 51 with a tapered sensor apparatus (and sometimes a stirring mechanism)" (Col. 4, lines 63-67). It is obvious to an artisan that such a probe tip would not be capable of being driven through a closure closing a sample tube. Thus, Zelinka does not disclose a "linear actuator adapted to drive a probe through a closure" and cannot be said to anticipate applicant's invention.

Further, at Col. 6, lines 57-62, Zelinka's device is described a cleaning the probe in a way that cleaning fluid drips between the rows of sample containers "without diluting or contaminating the test samples", and again an artisan would know such a precaution would be unnecessary if the sample containers were closed with a closure. Since Zelinka is dealing with open sample containers and not tubes closed with a closure, it cannot be said that Zelinka discloses nor inherently teaches each and every aspect of the as claimed invention, in particular a "linear actuator adapted to drive a probe through a closure" and cannot be said to anticipate applicant's invention. For these reasons, Applicant respectfully submits that claim 1 is allowable over the prior art.

Regarding dependent claims 5 and 6, these claims are allowable for at least the reasons as corresponding claim 1. Therefore, Applicant respectfully requests removal of this rejection.

Claim Rejections – 35 USC §103

Claim 3 is rejected under 35 USC 103(a) as being unpatentable over either Fose et al. or Zelinka in view of U. S. Patent No. 5,347,878 to Souvaniemi. Since neither Fose nor Zelinka disclose any form of a locking mechanism, the Examiner introduces Souvaniemi who teaches a pipette assembly with a locking feature. The Examiner states that it would have been obvious to incorporate a locking mechanism into the sampling arms of Fose et al. or Zelinka to avoid mishaps in aspirating or dispensing the sample fluid. In view of the above remarks concerning the deficiency of Fose et al. and Zelinka in teaching a sampling aliquotter having a vertical drive adapted to drive a probe through a closure, the addition of a locking feature like found in Souvaniemi to the teachings of Fose et al. and Zelinka fails to directly nor indirectly nor implicitly teach each and every aspect of Applicant's invention. The addition of a locking feature to a sampling probe or tip suitable for sampling from open containers does not provide a "linear actuator adapted to drive a probe through a closure" and cannot be said to make applicant's invention obvious. The rejection is thus felt to be improper and Applicant respectfully requests removal of this rejection.

Further, as stated in the MPEP 706.02, in making an obviousness rejection under 35 USC 103(a), MPEP 706.02(j) requires that the Examiner:

"set forth (1) the difference or differences in the claim over the applied reference(s), (2) the proposed modification of the applied reference(s), and (3) an explanation why such modification would be obvious."

In making the present obviousness rejection, the Examiner has failed to set forth any motivation for or explained why one would be motivated to, or why it would have been obvious to, modify the sampling arms of Fose or Zelinka by the addition of a locking mechanism like disclosed by Souvaniemi if one was attempting to lock and unlock a vertically translatable probe (66) and unlock and lock a tube retainer, at the same time with the same movement, in a controlled manner, so that a single actuator can perform two functions (explained between paragraphs [0063] to [0077]). The Examiner suggested the addition of a locking mechanism like disclosed by Souvaniemi would be desirable "to avoid any mishaps in aspirating or dispensing

sample fluid" however such is not the design purpose of and does not provide the desired design features of Applicant's claimed locking mechanism

Turning to Zelinka first, probes (20) are vertically translated by a vertical drive motor (37) that is described as an "synchronous linear actuator with the actuator arm 38 comprising a rotor incorporating an Acme nut that travels the vertical drive screw" (Col. 5, lines 55-62). Because of the very nature of such a vertical drive system, there is no need whatsoever for an additional locking mechanism. If the linear actuator were to fail, the arm 38 is mechanically gripped in place because the rotor is immovable. For this specific reason, there is no need nor motivation to add additional locking mechanisms to Zelinka.

Turning next to Fose, it is impermissible within the framework of 35 USC 103 to pick and choose from a reference only so much of it as will support a conclusion of obviousness; the entire teaching of the reference must be considered. Souvaniemi teaches an elastic locking mechanism that limits the rotation of an adjusting means, the adjusting means used to vary the volume of liquid dispensed by a pipette (Col. 1, lines 27-68). Applicant's locking mechanism is designed to lock and unlock a vertically translatable probe (66) and unlock and lock a tube retainer, at the same time with the same movement, in a controlled manner, so that a single actuator can perform two functions (explained between paragraphs [0063] to [0077]). Souvaniemi teaches an elastic rotary locking mechanism that cannot replicate or anticipate or make obvious Applicant's claimed locking mechanism with features enabling "releasing the probe and the retainer with first and second clips mounted on a single round shaft, the clips rotatable between a binding position and a free position by a rotary actuator such that when the first clip binds the probe, the second clip releases the retainer and when the second clip binds the retainer, the first clip binds the probe." In reality, if one were to substitute Souvaniemi's rotary locking mechanism into Applicant's aliquottor, Applicant's aliquottor would fail to properly function. There is simply no viable reason for an artisan, even one aware of Souvaniemi's rotary locking mechanism, to consider trying to employ a rotary locking mechanism in order to lock and unlock a vertically translatable probe and simultaneously. unlock and lock a tube retainer. Applicant thus believes there is no valid basis for the present rejection and respectfully requests that said rejection of claim 3 be withdrawn.

Conclusion

Applicant believes that this application contains patentable subject matter and that the foregoing amendments provide a basis for favorable consideration and allowance of all claims; such allowance is respectfully requested. If any matter needs to be resolved before allowance, the Examiner is encouraged to call Applicant's representative at the number provided below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Robert N. Carpenter", is written over a horizontal line.

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